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EQUIVALENCE IN INTERNATIONAL MARKETING RESEARCH

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Abstract.

In international marketing research comparisons between cultures or countries are made. In studies where direct comparisons across countries is made, comparability of data, conceptual as well as metric is assumed.

This study gives an overview of current international marketing research. The establishing of comparability or equivalence in all phases of the research process is described and current publications are positioned in the equivalence framework.

1. Introduction.

International marketing and international marketing research have become more important during the last years. The opening of a Common European market, the scale of modern mass-production and the saturation of international home markets have made the orientation on foreign markets a necessity. The complexity of international markets, the large differences between countries, and the unfamiliarity with these new markets lead to a higher need for international marketing research to solve strategic and tactic marketing problems.

The most important factors playing a role in the choice of a new market are market size and growth, political conditions, existing competition and market similarity (Jeannet and Hennessey, 1992). For these and other logistic reasons the new market chosen to enter is usually a market resembling and nearby one's own country. Manufacturers from the USA often choose to operate in Canada and the UK, Dutch manufacturers mainly operate in Belgium and Germany. Before entering a new market, desk research and exploratory marketing research are necessary.

The marketing mix proven successful in one's own country does not have to be successful in another one. Copying marketing mix elements, especially advertising, to another culture can have unexpected effects. Equal advertisements can elicit other responses in different countries due to a different level of awareness, familiarity or knowledge of the product. The chocolate bar Kitkat was perceives 'small' as compared to the other bars in the Netherlands, whereas it was perceived as it should be in Belgium (Davison and Grab, 1993). The main reason for this difference was the different concurrent field in these countries.

2.1. Literature on international research.

Little has been published on international marketing research. Textbooks on marketing research (for example Kinnear and Taylor, 1979, Kress 1985, Green, Tull and Albaum, 1988 and Churchill, 1991) do hardly mention international marketing research. Only in the textbook of P.M. Chisnall (1981) a chapter on international marketing research is included. Also in the international marketing literature little attention is paid to international marketing research. In Jeannet & Hennessey (1992) one chapter is devoted to international research and in Keegan (1989) international research is briefly mentioned in the chapter on marketing information systems and research. The only standard work in the field of international marketing research is written more than 10 years ago (Douglas and Craig, 1983).

Until the middle of the eighties little attention was paid to international marketing research in literature. With 1992 in sight the number of publications is starting to increase. The year 1986 can be seen as a turning point. Before this date most publications on international research are from related fields like cross-cultural psychology (Berry, 1969; Brislin, Lonner and Thorndike, 1973) and comparative management research (Graves, 1973; Schöllhammer, 1973; Hofstede, 1980). In their 1984 article Albaum and Peterson give a review of empirical research in international marketing research during the period 1976-1982. Their conclusion, based on 111 articles, is that 'the choice of country and topic studied is more a function of convenience than purposeful deliberation'. Most of this research is descriptive or exploratory rather than analytical or normative. Almost no attention is paid to research methodology, a topic studied extensively in cross-cultural psychology by then. In the review on international marketing by Douglas and Craig (1992) organizational aspects in international research are emphasised besides methodological aspects; marketing research as such is not a key topic in this publication.

2.2. A typology of publications in international marketing research.

We distinguish two types of publications in international marketing research: conceptual and empirical studies. The first type of publications in international marketing research come from managers in market research agencies and multinational organisations, mostly in Europe and from academians. These publications are conceptual and either practical or theoretical oriented. The focus is on organisational and management problems in international marketing research. The first article in this field mentioning the importance of comparability in international research is written in 1966 by L. Webster, director of an English research agency. Her paper was followed years later by papers by e.g. Mayer (1980), Mahmoud and Rice (1988), Olivier (1989), Van Hamersveld (1989), Jain (1989), Nasif et al. (1991), Barnard (1991) and Bhaduri et al. (1993). They all stress the methodological and practical problems a researcher encounters when doing marketing research in international settings.

The empirical publications are primarily methodological and statistical-technical oriented. The publications included in table 1 all are about empirical research where the research methodology is thoroughly described. Publications were research findings are only described are excluded.

The first type of empirical publications focuses on the generalisation of theories from one culture

to another. In these studies known methodology is used for testing the cross-cultural applicability of consumer research models. Several studies have been devoted to the applicability of models like the Rokeach value survey (Ng et al., 1982; Schwartz and Bilsky, 1987, 1990), Hofstede's culture dimensions (Hofstede, 1982) or the Fishbein model (Lee and Green, 1991) in other cultures. In these studies models and structures tested turn out to be comparable across countries (e.g. Schwartz and Bilsky, 1987, 1990; Lee and Green, 1991), supporting the hypothesis that models are generalizable at a sufficient high level of abstraction. At a more detailed level however, weights attached to specific model components (Lee and Green, 1991) differ.

The second type of publications focus on comparisons between cultures, where validity and reliability of the research measures is a primary concern. Examples of this type of publications in marketing literature are Davis, Douglas and Silk (1981) and Parameswaran and Yaprak (1987). In these publications attention is payed to the reliability and validity of research measures in international marketing research. It is concluded that research measures related to 'harder' product attributes elicit more reliable responses as compared to measures related to 'softer' product attributes (Davis, Douglas and Silk, 1981; Parameswaran and Yaprak, 1987). Comparability is more difficult to obtain for attitudinal and perceptual variables than for demographic and other background variables (Davis, Douglas and Silk, 1981). In the line of determining validity and reliability of consumer research measures across countries, a new stream has started in the publications by Netemeyer et al. (1991). Their research focuses on the cross-cultural generalizability of consumer behavior measurement and procedures. The main objective of these studies is establishing the psychometric properties of measures cross-nationally using structural modelling techniques like LISREL (Jöreskög, 1978). Durvasula et al. (1993) demonstrate the cross-cultural testing of research measures in advertising research. The main conclusions of these publications are that the constructs measured are invariant across cultures, but that the mean values on the constructs show differences across countries.

In the third type of publications a new methodology is applied to foreign data. In these publications data from a non-US country is analysed, using advanced methods for finding segments (Kamakura and Mazzon, 1991). Here the use of international data is only used for illustration of the presented model, although comparisons in content are made with US data.

International research directly related to marketing problems like research or segmentation research is scarce. Boote (1983) used general psychographics to demonstrate the existence of comparable segments across borders in France, Germany and UK. In the publication by Kamakura, Novak, Steenkamp and Verhallen (1994) data from various countries are analyzed simultaneously for finding cross-national segments. However: in both articles the emphasis is on theoretical constructs. No attention is payed to applicability or actionability of results. Cf. the criteria for segments: identifiability, responsiveness to marketing efforts, accessibility, temporal stability and actionability (e.g. Wedel, 1990) are ignored.

Table 1. Recent academic publications in international (marketing) research literature.

Subject	Author	Journal	Year	Type	Topic	Nb. countries
Family buying decisions	Hempel	JMR	1974	GEN	consumer behavior	2
Cross-national study of perceived risk	Hoover, Green, Seagert	JM	1978	GEN	consumer behavior	2
Reliability and validity of consumer research measures	Davis, Douglas, Silk	JM	1981	VR	validity	5
Cross-cultural applicability of (Rokeach) values	Ng et al.	book(art)	1982	MAC	Rokeach values	9
Dimensions of national cultures	Hofstede	book(art)	1982	MAC	Hofstede	40
Validation culture dimensions	Hofstede, Bond	JCCP	1984	MAC	Hofstede	6
Chinese values compared with Rokeach values	Chinese Culture Connection	JCCP	1987	MAC	Rokeach values	22
Comparison of consumer research measures	Parameswaran, Yaprak	JIBS	1987	VR	attitudes tow. product	2
Application of Rokeach Value Survey in other cultures	Schwartz, Bilsky	JPSP	1987	MAC	Rokeach values	2
Finding universal dimensions in studies of values	Bond	JPSP	1988	MAC	Chinese + Rokeach val.	22[1]
Identification dimensions cross-cultural comparisons	Leung, Bond	JCCP	1989	MAC	standardization	22[2]
Modelling multinational diffusion patterns	Gatignon, Eliashberg, Robertson	MS	1989	GEN	diffusion	14
Application of Rokeach Value Survey in other cultures	Schwartz, Bilsky	JPSP	1990	MAC	Rokeach values	7
Value segmentation	Kamakura, Mazzon	JCR	1991	GEN	segmentation	2[3]
Cross-cultural examination of the Fishbein model	Lee, Green	JIBS	1991	MAC	Fishbein model	2
Cross-national assessment of validity and reliability of the CETSCALE	Netemeyer, Durvasula, Lichtenstein	JMR	1991	VR		4
Application of Rokeach Value Survey in other cultures	Schwartz	book	1992	MAC	Rokeach values	20
Data analysis for comparative social research: International perspectives	Hayashi, Suzuki, Sasaki	book	1992	GEN	Sociological research	2
Cross-cultural validity of measurement instruments: LOV	Grunert, Grunert, Kristensen	RAM	1992	MAC	LOV (list of values)	4
The relative importance of products' environmental attributes	Sriran, Forman	IMR	1993	PR	product research	2
Cross-national applicability of consumer research models	Durvasula, Andrews, Lysonski, Netemeyer	JCR	1993	MAC	advertising	5

[1] same data as Chinese Culture Connection

[2] Ibid.

[3] only at an aggregate level comparions are made

Subject	Author	Journal	Year	Type	Topic	Nb. countries
Country segmentation using diffusion patterns	Helsen, Jedidi, DeSarbo	JM	1993	GEN	diffusion	12[4]
Social values and female fashion leadership: a cross-cultural study	Goldsmith, Freiden, Kilsheimer	P&M	1993		segmentation	2
Cross-national applicability of advertising belief and attitude measures	Andrews, Durvasula, Netemeyer	Jadv	1994	MAC	advertising	2
Marketing universals	Dawar, Parker	JM	1994	GEN	consumer behavior	39[5]
Identification of pan-european value segments	Kamakura, Novak, Steenkamp, Verhallen	RAM	1994	SEG	segmentation	3

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[4] Data on a macro-economical level

[5] MBA students with 39 different nationalities

2.3. The adopted view of the international environment.

Another typology for characterizing publications is the adopted view of the environment. The question raised is whether the search is for universal or unique aspects or both. In this typology the continuum from uniqueness to universality is important. Early studies either focused on total uniqueness (e.g. anthropological studies) or on total universality (e.g. early marketing research studies); later studies pay attention to both unique and universal aspects.

Depending on the adopted view studies can be classified into six types. Adler (1983) gives an overview of the six most common types of international management studies which are types are equally valid in international marketing research.

The first type are parochial studies, where a researcher studies topics in his own country. The second type are ethnocentric studies, where studies done in the home country are replicated in foreign countries. The main goal of ethnocentric studies is the search for similarity between countries. The third type are the so called polycentric studies, studies performed (simultaneously) in many countries. In these studies similarity is denied and the main goal is the search for differences. The fourth type of international management studies are comparative studies, in which one tries to find similarities and differences between cultures. The fifth type are the geocentric studies, where culture is assumed to be homogeneous. The assumption of universality as in geocentric research was also addressed by Levitt in his 1983 paper on globalizations of markets. The last type are synergistic studies, where interaction between members from different cultures and integrating processes are the main research objectives. The last two types of research are not found in cross-national consumer research. The two extremes of this typology are polycentric studies on the one hand where universality is denied and geocentric studies on the other hand where universals are assumed.

Marketing research studies in a cross-cultural setting are restricted to the first four types, with an emphasis on type one, two and four. Most international studies are of the ethnocentric type. Comparative studies are still scarce in international research. The geocentric approach as mentioned in "The globalization of markets" (e.g. Levitt, 1983) is lacking in marketing research, due to high costs in time as well as money. The majority of geocentric studies can be found in organizational science, where global studies begun with the work by Hofstede (1980). In marketing most goods are not global, due to cultural influences and different tastes attitudes towards for example food and other consumption goods can be very different. For most products adaptation to the local situation is required.

3. Equivalence.

When direct comparisons between people or product evaluations from different countries are expected outcomes of a study, equivalence of research issue and research methodology are essential. Equivalence can be distinguished into construct and measurement equivalence (Douglas and Craig, 1983). Construct equivalence concerns the contents of a study, whereas measurement equivalence concerns the technical and statistical aspects of a study. Construct equivalence can be divided into three parts: conceptual, categorical and functional equivalence.

Measurement (or methodological) equivalence can also be divided into three parts: calibration, translation and metric equivalence.

EQUIVALENCE	CONSTRUCT	Conceptual Functional Categorical	Equivalence of research DOMAIN
	METHODOLOGY	Translation Calibration Metric	Equivalence of research INSTRUMENT

Conceptual equivalence deals with the meaning of words and the interpretation of behaviour in different cultures. A traditional cook in Greece and a traditional cook in Italy are not the same, in spite of the same word that is used. Their behavior regarding meal preparation and product use is totally different. Another example concerns the emotional context of behaviour. Washing clothes by hand is a rare activity in Germany only for fibres that need very special treatment. In Italy washing by hand is quite common: it expresses the care taking role of the Italian wife. Categorical equivalence relates to the category to which objects or products belong. Product class definitions may differ from one country to another. For example, in one country cakes and cookies are part of a meal as desserts, while in another country they are included as snack. This implies that the relevant competing products can show considerable differences over countries. This lack of equivalence may pertain to brands as well. The brand FLORA (a margarine variant) is for sale in Spain and Portugal, the ingredients of the product however differ in the two countries. Objects or behaviours are functionally equivalent when they have the same role or function in all countries studied (Berry, 1969). For example: while in the USA bicycles are predominantly used for recreation, in the Netherlands and developing countries they provide a basic mode of transportation. In all countries the use of cars is equivalent, although the product can have a different status as e.g. in the USA and in Africa.

Calibration equivalence refers to unity in measurement. An obvious example is length that can be measured in inches and centimetres or the price of a product is measured in different monetary units. A less obvious example concerns the quality of the product in the various countries. For having equivalence data should be converted into one unit before analysing. Translation equivalence refers to the proper translation of the research instrument in another language, while preserving the original meaning of the words. This does not imply the same wording or literal translation of sentences. Translation equivalence implies that the formulation of questions can differ, but that the meaning of the questions is understood in the same way by respondents in the different cultures. The **intent** rather than the **content** of a sentence should be preserved in translation (Brislin, 1986). The same holds for translation of non-verbal stimuli or brands. A favorite colour in advertisements can vary across countries: the favorite colour for Chinese people is yellow, whereas the colour brown is favorite in the USA (Huang, 1993). Metric equivalence can be assessed only after the data have been collected. It concerns the reactions to the data collection procedures and the response to the scales used. Data are metric equivalent

when an observed cross-cultural difference on a measurement scale is matched by a corresponding difference on a comparison scale (c.f. Poortinga, 1989). An example involves persons in various countries giving a '7' on a 7-point scale to indicate their 'intention to purchase a specific product'. Metric equivalence exists when this '7' refers to the **same** intention to buy the product in these countries. Metric equivalence exists when data have the same structure (variance/covariance) **and** the same meaning (an equivalent mean).

In recent publications in marketing research the used definition of metric equivalence is less strict. An invariant structure (variance/covariance), dimensionality (number of factors) and equivalent relationships among the constructs) in research measures is taken as a sufficient condition for metric equivalence (Durvasula et al., 1993).

4. Equivalence related to marketing problems.

In many cross-cultural studies construct and measurement equivalence are implicitly assumed. In comparative studies in marketing equivalence of procedures is important for finding true differences and similarities. As a consequence calls for more thorough studies on evaluating the psychometric properties of cross-national measures were made in marketing research (Parameswaran and Yaprak, 1987; Douglas and Craig, 1992). The answer to these calls has been scarce; the only publications are by Parameswaran and Yaprak (1987) themselves, Netemeyer et al. (1991), Durvasula et al. (1993) and Dawar and Parker (1994).

Incomparability or non-equivalence threats the reliability and the validity of international comparative research and consequently influences research outcomes and marketing decisions.

Depending on the type of comparisons made equivalence is more or less important. When only indirect comparisons are made strict equivalence is not necessary. For example in product research, where testing the local preference is the only expected outcome, the comparability with other countries is not important. In advertising research where an international campaign is planned, the emphasis is on compasisons between structures in the assessment of the advertisement. The content of the message should be understood in the same way by consumers from the different countries.

In segmentation research where direct comparisons between consumers from different countries are made the equivalence in constructs as well as measurment is essential. When segments are expected to cross borders the data should mean the same to each consumer. An equal score on a Likert-scale for example should refer to the same behavior. When scores refer to different behavior, the scores have to be made equivalent before valid comparisons can be made (Poortinga, 1989).

Table 2. Comparisons and the type of research.

	Comparison: Indirect	Comparison: Content	Comparison: Direct
Product research	*		
Advertising	*	*	
Positioning		*	*
Segmentation			*

Depending on expected research outcomes equivalence has to deserve more or less attention during the research process. When direct comparisons at the individual level are wanted, as for example in segmentation research, metric equivalence is essential. In product research, where only structures or aggregated results are compared, strict metric equivalence is less essential. Equivalence in construct is required also if comparisons are made at an aggregate level only.

Table 3. Equivalence in the research process.

	---	CONSTRUCT	---	---	MEASUREMENT	---
	Conceptual	Categorical	Functional	Translation	Calibration	Metric
Problem definition	*	*	*			
Sampling	*					
Design of instrument	*			*	*	
Data collection	*					
Data analysis					*	*
Report	*	*		*		*

5. Equivalence in international marketing research.

International research follows the usual research process. When more countries are involved each step of the process needs more attention however. From problem definition to data analysis validity, reliability of the study are threatened by non-equivalence.

International marketing research is influenced by two main topics: methodology of international research and management of the study, including co-ordination and planning processes.

> Methodology   International marketing research   Management

In this article the emphasis will be on methodological issues. Management of international studies is also a key factor for obtaining equivalence and consequently research outcomes (Douglas and Craig, 1992; Hibbert, 1993). Management will be referred to if appropriate in the context of methodological issues.

5.1. Equivalence in problem definition.

The first step in international research is to establish **construct equivalence** while the problem is defined in the countries or cultures being studied. Attention for the cultures and their environment is essential during this step of the research process. The environment concerning the research program, the social, physical, economical, political and technological environment, has to be taken into account for explaining similarities and differences found.

The social environment includes the cultural background, the educational system and the social structure in a country. The social environment does not change rapidly over time. Therefore many marketing mixes will subconsciously incorporate social values, which cause cultural bias. The amount of influence youngsters have in the family can differ significantly over countries; in the USA this influence is large, whereas in France it is small (Douglas and Craig, 1983). The physical environment includes the population and population concentration in a country, but also its climate. The physical environment can have profound effects on sales potential of products. The economical environment includes data on for example income distribution and prices of competing products and services. The possibilities for penetrating a market penetration can be limited by legal and financial constraints. The political environment includes the type of government, political stability and the philosophy towards business in general and foreign business in particular. Import barriers for certain products are part of the political environment. For example: the existence of import quota for Japanese car makes in Southern European countries results in a different concurrential field (Jain, 1993). When only luxury cars are imported the image will differ from the image in a country where small vehicles determine the position of the make. The technological environment refers to the present position of technology. Knowledge and availability of computers and telecommunication are part of this environment. The usage of lap-top computers for interviewing can be common practice in one country, whereas it can be completely unknown in another.

The main source of data on the environment can be found in secondary data. Statistical agencies in most countries have data about population characteristics and economic situation of the country. Chambers of commerce can provide data on economic activity in regions (see for example in Douglas and Craig, 1983). Secondary data are usually not equivalent across countries. For market entry decisions secondary data can suffice to answer marketing questions. For market penetration or market development decisions collection of primary data is usually nescessary.

Table 2. An overview of methods in recent international (marketing) research literature.

Author	Journal	Year	Sample size (per country)	Sample	Questionnaire	Approach	Technique	
Hempel	JMR	1974	145/185	prob. regional: sample house owners	personal int.	separate	Chi-square	
Hoover, Green, Seagert	JM	1978	106/116	upper middle and upperclass women	telephone/personal	whole	ANOVA/Chi-sq.	
Davis, Douglas, Silk	JM	1981	161/95/109/76/91	convenience samples: households	self-admin. quest.	separate	Reliab. coeff.	
Ng et al.	book(art)	1982	100	50/50 male/female students	personal: class	whole	ANOVA	
Hofstede	book(art)	1982	ca. 2500	employees of a multinational (IBM)	n.a.	whole	FA	
Hofstede, Bond	JCCP	1984	100	50/50 male/female students	personal: class	whole	FA	
Chinese Culture Connection	JCCP	1987	100	50/50 male/female undergraduates	personal: class	whole	FA	
Parameswaran, Yaprak	JIBS	1987	158/202	conv.: business executives	mail	whole	ANOVA	
Schwartz, Bilsky	JPSP	1987	455/331	students/ teachers	personal: meeting/class	separate	MDS	
Bond	JPSP	1988	100	50/50 male/female undergraduates	personal: class	whole	FA	
Leung, Bond	JCCP	1989	100	50/50 male/female undergraduates	personal: class	whole	FA	
Gatignon, Eliashberg, Robertson	MS	1989		n.a.	n.a.	separate	GLS	
Schwartz, Bilsky	JPSP	1990	184 thru 1409	students thru representatives	personal/n.a.	separate	MDS4	
Kamakura, Mazzon	JCR	1991	800	nationally representative		separate	rank logit	
Lee, Green	JIBS	1991	212/217	students	n.a.	separate	LISREL	
Netemeyer, Durvasula, Lichtenstein	JMR	1991	71/73/70/76	students	personal: class	sep./both	LISREL	
Schwartz	book	1992	ca. 200 per subsample	students/teachers (most)	personal/mail	separate	MDS	
Hayashi, Suzuki, Sasaki	book	1992	> 300 per subsample	nationally repr. / students	personal/other	separate	MDS/CA	cohorts
Grunert, Grunert, Kristensen	RAM	1992	771/211/187/244/248	students and parents	personal: class / mail	both	LISREL	
Sriran, Forman	IMR	1993	184/64	students	personal: location	separate		
Durvasula, Andrews, Lysonski, Netemeyer	JCR	1993	179/110/89/86	students	personal: class	both	LISREL	
Helsen, Jedidi, DeSarbo	JM	1993	n.a.	n.a.	n.a.	whole	FA	
Goldsmith, Freiden, Kilsheimer	P&M	1993	136/115	mall/adult education	personal: location	separate		
Andrews, Durvasula, Netemeyer	JAdv	1994	148/64	students	personal: class	both	LISREL	
Dawar, Parker	JM	1994	691	students	personal: class	whole	ANOVA	

Author	Journal	Year	Sample size (per country)	Sample	Questionnaire	Approach	Technique	
Kamakura, Novak, Steenkamp, Verhallen	RAM	1994	437/546/590	nationally representative: women	personal	whole	rank logit	

5.2. Equivalence in collection of primary data.

As in domestic marketing research the process of collecting primary data in international research can be divided into five steps: sample selection, questionnaire design, data collection, data coding and data analysis.

5.2.1. Equivalence in sampling.

For collecting primary data a representative sample is of central importance if general statements over countries or regions are expected outcomes of the study. In cross-cultural studies involving two or more cultures the drawing of equivalent samples is a major obstacle. Without a defensible sampling frame however the results of the study may be ambiguous or misleading. Due to practical reasons most cross-cultural research studies including international marketing research studies work with nonrandom samples. In many studies 'convenience' samples containing students are used (e.g. Schwartz & Bilsky, 1987; Durvasula et al., 1993). Research using national representative samples is scarce, the article by Kamakura et. al. (1994) is an exception. The main reason for student samples is their accessibility, their cost-effectiveness in both time and money and their homogeneity. Homogeneity is essential, because only then differences between the samples from different countries can be seen as true cultural differences between those samples. Another rationale for choosing student samples is the maximum **equivalence of these samples**, which decreases the possibilities for alternative explanations of results. A drawback of these student 'convenience' samples however is the decreased replicability and generalisability of the study. If we want to generalise and to state whether phenomena are truly cross-cultural representative samples are necessary.

Representative sampling is scarce in international research studies found in literature. A main reason for using non-random samples is the expense in money as well as time when random samples are used. Only multinational companies use random samples in their international marketing research studies. The investment in time as well as money is made, since they want to base their international marketing strategy on these data. Studies using representative samples are done by commercial research agencies mostly in the US and Europe; of these studies little is published.

Another reason for not drawing representative samples is the lack of reliable population statistics in countries outside the Western world. Census figures can be inaccurate or even missing for some regions. Even in Western countries the most recent census can already be outdated (the last census in the Netherlands was held in 1971; later population data are based on large samples).

5.2.2. Equivalence in design and translation of the research instrument.

Another problem faced when doing international research is the design and translation of the research instrument. Translations ignoring cultural differences can result in wrong conclusions regarding the marketing strategy to be followed.

Recommended solutions for verbal language equivalence are backtranslation or simultaneous translation of questionnaires (Brislin, 1986 ; Hayashi et al., 1992). For eliminating the central

effect of the original language the use of decentring, a procedure involving repeated backtranslation to remove the effect of the central language in the research project, is recommended (Brislin, 1986). During the translation process cultural differences can be encountered and corrected for. For example: addressing a person is not the same in different languages. For example in English speaking countries there is a universal form (You), in the Dutch and German language there are two forms (U and Je) a formal and a friendly informal address, whereas in Japan there are several addresses to make allowance for the others' status. Careful translation is necessary when translation from English into Japanese (Hayashi et al., 1992; Netemeyer et. al, 1991). E.g. in Netemeyer et al. (1991) a thorough procedure using backtranslation and a pilot study using respondents from all four countries (US, France, Japan and west Germany) was used for obtaining equivalent questionnaires. Such a procedure is an exception, most questionnaires are only backtranslated once, or a questionnaire in the same language is given to all respondents (Dawar and Parker, 1994).

5.2.3. Equivalence in data collection.

Reactions to questionnaires can be less easily accounted for. The reaction of a respondent towards the data collection method can differ over countries. E.g. in the USA telephone interviewing is common, but in Mexico telephone interviewing is difficult, because few numbers are listed and respondents are reluctant to give information to strangers over the telephone (Hoover, Green and Seagert, 1978). For obtaining equivalent samples data collection procedures can be different (telephone and personal interviewing). On the other hand: the same data collection procedure (by mail) can result in different response rates when the source of the mail is in another country (Ayal and Hornik, 1986).

Also reactions towards interviewers can differ. An Islamic woman may not be allowed to talk to a male interviewer when her husband is not present. In Asia a whole group rather than a single person is present during the interview. When comparing results across countries without taking common local interviewer or situation characteristics into account, conclusions on cross-cultural differences and similarities can be misleading. Establishing measurement equivalence can be difficult due to response bias caused by data collection procedures. When these differences in data collection are ignored or only partially accounted for, real cross-cultural differences and bias cannot be separated. The effects of data collection in academic research are negligible, since most data collecting for academic research is done in a classroom using students.

5.3. Equivalence in data and metric.

Non-equivalence in sampling, questionnaires and data collection threatens the reliability and validity of an international research study. Most threats to equivalence can be overcome a-priori by knowledge of the research environment and careful description of the research problem.

The existence of metric equivalence can only be determined after all data have been collected. The use of rating scales in an international setting can elicit different responses from respondents of different cultures (see e.g. Hibbert, 1993). Respondents in Asia are less likely to use the extremes of a rating scale as compared to US respondents (Lee & Green, 1991) and Italian respondents are giving more positive answers as compared to their German counterparts (Williams, 1991). In these studies the response effect is noted, but no further attention is given to

it. These response effects can be due to real cross-cultural differences, response bias or a combination of both. When data from respondents of different countries are combined and compared directly, as in international segmentation research, these response effects may have severe influence on results. An equal response to a scale does not imply that persons from different cultures attach the same meaning to that response.

Studies devoted to metric equivalence of data are scarce in marketing research literature. The only study in the field concerns response style and its effects on results in research (Greenleaf, 1992a, 1992b). In international marketing research the issue is almost absent. The issue of metric equivalence (the strict definition) in an international context, has been studied extensively in cross-cultural psychology. A main publication in the field of item bias is by Berk (1982). In item bias studies artefacts caused by the research instrument (usually an instrument for intelligence or personality testing) are separated from real cross-cultural effects.

Some researchers (Netemeyer et al., 1991; Durvasula et al., 1993) use a less strict definition while establishing metric equivalence: 'Metric equivalence is established when the dimensionality and reliability of research measures exhibit a similar pattern across countries'. This definition can be seen as a broad definition of metric equivalence. For establishing the existence of equivalent structures across countries and consequently the same advertising strategy this definition is sufficient. When scores of consumers from different countries are compared directly (assuming equivalence in mean as well as variance/covariance structure), this definition does is not sufficient any more.

Statistical analysis techniques.

While analysing various statistical techniques are used in international marketing research. In international research three kinds of multivariate techniques can be distinguished (table 4). Analysis of Variance, Structural models (LISREL) and Multi Dimensional Scaling are the most popular techniques. A miscellaneous category consists of publications where only univariate analyses like Chi-square and correlations (Hempel, 1974) or reliability coefficients (Davis, Douglas and Silk, 1981) are used on the one hand and of publications where advanced methods like the rank logit model (Kamakura et al., 1994) are used on the other hand.

In the first publications on international research analysis of variance was used to separate concept specific variance from cultural and residual variance (Poortinga and Van de Vijver, 1987; Parameswaran and Yaprak, 1987). In recent publications (Dawar and Parker, 1994) analysis of variance is for the same purpose, but here various definitions of culture (not only country) are used to determine the effects.

A recent development is the use of covariance structure models and especially confirmatory factor analysis in international research. This technique is used to validate the structure of the data in other cultures, using the less strict definition of metric equivalence. The goal is to establish the same dimensionality and data structure (in terms of factor loadings) across countries.

Multi Dimensional Scaling related techniques in international research are used when content analysis is used as a second step. Researchers using these techniques are not directly comparing data from different countries, but are analysing the data for each country separately (e.g. Hayashi,

Suzuki and Sasaki, 1992). The emphasis is on revealing equivalent structures in various countries.

5.4. Equivalence in research outcomes.

An neglected issue in academic international marketing research is the issue of outcome equivalence. We define outcome equivalence as 'the situation where results of international research reflect real differences and similarities in consumer behavior'.

E.g. a French manufacturer concluded that Japanese consumers we enthusiastic about his product. After introduction the product became a failure. The main reason was the questionnaire: only two answering possibilities per question were given: 'yes' and 'no'. Since saying 'no' is impolite in Japan most consumers said 'yes' when asked questions about product preference and buying intention (Hibbert, 1993). This answer however did not reflect the actual buying intention, which was much lower.

6. Discussion and further direction for international research.

In current international marketing research the establishing of equivalence in all phases of the research process is still limited. Equivalence in construct is usually assumed present. Equivalence in sampling is obtained by using convenience samples. Translation equivalence is established in most research using the standard procedure by applying backtranslation or even decentring. An ignored topic is metric equivalence. Another neglected topic is the equivalence in research outcomes and implications for marketing strategies. New trends in international marketing research tend towards using advanced statistical methods like LISREL and logit-modelling.

New directions in international research be on the importance of strict equivalence in international segmentation research and on implications for marketing strategy and tactics.

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